

San Francisco Bay Conservation and Development Commission

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TO: Bay Fill Policies Working Group Members

FROM: Steve Goldbeck, Deputy Director (415/352-3611; steve.goldbeck@bcdc.ca.gov)

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SUBJECT: August 18, 2016 Commission Bay Fill Policies Working Group Meeting Summary

1. Roll Call, Introductions and Approval of Agenda. Bay Fill Policies Working Group (BFPWG or Working Group) Chair Barry Nelson called the meeting to order at the Port of San Francisco Board Room, Second Floor, Ferry Building, San Francisco, California, at 11:05 a.m. and asked everyone to introduce themselves.

Working Group members in attendance included Chair Barry Nelson and Commissioners Jason Brush, and Jim McGrath. Staffs in attendance were Brenda Goeden, Steve Goldbeck, and Anniken Lydon. Also in attendance were Matt Brennan, PhD, (Environmental Science Associations), Betty Kwan (Bay Planning Coalition) and Jill Singleton (Cargill).

2. Approval of Working Group Summary from the July 21, 2016 meetings. Commissioner Jim McGrath noted that the meeting summary had greater detail than in the past, which is good because the Working Group is beginning to dig deeper. Brenda Goeden, the BCDC Sediment Program Manager, asked Commissioners about format preference for meeting summaries. Chair Nelson stated he preferred names attributed to comments as opposed to a list of discussion points because it helps remind Commissioners of the conversation threads. Commissioner McGrath agreed but for a slightly different reason. He stated there is concern about the bandwidth of this Working Group because there are not many members of the public who attend the meetings, but many have an interest in the outcomes. It is important for Commissioners to be accountable for their recommendations so it is important to include names with ideas. The Working Group members approved the meeting summary for July 21, 2016, as presented.

3. Continued Discussion on Key Policy Issues for Habitat Projects. Ms. Goeden referenced the document provided on habitat based projects and potential policy issues in the meeting packet and noted highlighted questions that have not yet been addressed, underscored statements that are still under discussion, and trial statements to determine if the Working Group is in agreement on specific issues, such as *Item D(1)* on minor amounts of fill. As summarized below, the items listed can be referenced back to the provided document located here: <http://www.bcdc.ca.gov/bayfill/20160818-Fill-Issues-Habitat.pdf>.

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State of California | Edmund G. Brown, Jr. — Governor



BAY FILL POLICIES WORKING GROUP SUMMARY

August 18, 2016

Item A. Commissioner McGrath stated the document was useful. He suggested changing the first trial statement to incorporate clear metrics for protection, such as turbidity. It is necessary to consider that, when sediment is put in the Bay, it increases the level of turbidity, which affects endangered species such as the Green Sturgeon, which is sensitive to turbidity. Chair Nelson stated the BCDC considers a variety of strategies that involve fill for habitat purposes. The minor-amount-of-fill metric is not the right one anymore; there are clearly gaps there. He stated the need to learn more in order to make the right changes. Commissioner McGrath stated the need to acknowledge that the relative scarcity of habitat is the most critical to protect, as well as the consideration of stressed habitats.

Item B. Chair Nelson stated sea level rise should be considered in all habitat restoration projects. It is not necessary to ensure the habitat is there forever, but may evolve into subtidal or intertidal habitat. Steve Goldbeck, the BCDC Chief Deputy Director, agreed but stated the offsetting benefit has to persist as well. If restoration impacts something, it needs to be addressed. Even if it is a restoration project, there will be impacts to existing habitat that must be considered in terms of the benefits.

Chair Nelson suggested eliminating the word “succumb” because it will not go from habitat to no habitat but will be habitat that will likely convert over time. The question is whether to maintain the particular habitat type over time or plan for it to transition. Chair Nelson stated the importance of discussing the permanency of mitigation. What is expected of an applicant in terms of the lifespan of a mitigation project is a big question. Commissioner McGrath stated the same issue is there for public access. Commissioner Jason Brush asked if BCDC mitigation requirements in permits typically require management in perpetuity for the life of the project. Mr. Goldbeck stated if the fill is taken out, then they no longer have an impact, so the mitigation can end, but otherwise, yes.

Matt Brennan, PhD, PE, the Senior Coastal Engineer at the Environmental Science Associates, stated habitat-based projects should be required to plan for and respond to sea level rise. That can include adaptive management for when that mitigation function being replaced is no longer there. He asked what the adaptive management strategy is to continue to provide those ecosystem services elsewhere. Chair Nelson stated Dr. Brennan raises an important question, that there is a need to use different metrics for each project based on the value of each project. Mr. Goldbeck stated the right answer may be that it depends on the project. Chair Nelson stated the importance of capturing both the restoration and mitigation issues. Commissioner McGrath gave the example of mitigation associated with Smart Train in Marin County where the mitigation site will eventually be salty. At that point, it will be important to have subtidal and habitat goals in place. It gives a sense of direction on a landscape scale. Chair Nelson agreed that mitigation site may change over time.

Ms. Goeden stated applicants such as the Federal Highway Administration and the California Department of Transportation (Caltrans) have come in on a bridge footing where part of the marsh needs to be taken out. Their first argument presented to staff was that

they should not have to mitigate because the site being impacted will be underwater as sea level rises. Then they argued that the mitigation site will eventually be underwater. She stated restoration projects have come in recently from the US Fish and Wildlife Service (USFWS) and they have argued that the project should not need to build transitional habitat or high tide refugia because the restoration area will be underwater in twenty years.

Dr. Brennan stated there are guidelines for the built environment. He asked if there are guidelines for habitat mitigation. Mr. Goldbeck stated the same rules apply to any project. There are no specific numbers for mid-century and end-of-century. Ms. Goeden stated restoration projects are still considered development as they are a change in use of the site. Dr. Brennan stated “in perpetuity” is different from “end-of-century,” which has a limit. Ms. Goeden stated there is no language that says a restoration project has to last in perpetuity. Applicants, particularly in the restoration community, often do not have the funding to monitor and adapt, yet they have huge land areas to manage and restore.

Item 3B. Commissioner McGrath suggested discussing the question about converting mud flats to beaches. There are two sides to this debate: beaches are a more benign way of providing shore protection (they have habitat value and generally have flat slopes, which moves wave energy offshore), but they were relatively scarce in the San Francisco Bay prior to human intervention. Commissioner McGrath stated the need not to look at the past as a model, but to look at how an area is constrained. If an area is unable to hold sand, it does not matter if it is a good idea from a habitat perspective.

Chair Nelson stated there may be mudflat locations around the Bay that can hold sand and can be converted to beach, such as the North Basin in Berkeley. Commissioner McGrath stated there was placement of sand in the North Basin in Berkeley for eelgrass. The beach is now gone because it has been buried under the mud. For the most part, around the Bay there is a prototype beach with natural environment where there is enough wave energy to bring the sand in via bedload. There is sand at the base of the Bay Bridge and Albany Hill, but not on the other side. Mr. Goldbeck stated there are also sand beaches around some of the refineries.

Commissioner McGrath stated the East Bay Regional Park District is doing a beach nourishment project at Albany Beach, which makes sense - it is well established. There are other minor beaches that can be enhanced, but they will not be the main habitat in San Francisco Bay due to their small scope and physical constraints. Mr. Goldbeck agreed that they cannot answer the green to gray infrastructure question for wave and strong energy attenuation because they will not persist over time. Commissioner McGrath stated their small mass precludes significant wave attenuation.

Dr. Brennan stated that some have suggested using shell hash to create beaches, matching material with greater resistance. Beaches provide public access to the edge of the water and to the water itself. Commissioner McGrath stated there were beaches in the South Bay prior to the diking for the salt ponds. Beaches may reoccur as shoreline

morphology adapts to the greater tidal prism. Even if beaches have no recreational value, they are a great habitat for endangered species when they are offshore or have marsh behind them. He cautioned against applying sand or shell hash before considering what makes sense for beach nourishment. Dr. Brennan suggested keeping it as one of the green to gray options.

Item 2F. Chair Nelson stated *Item 2F* has the same set of issues of persistence and permanence. One of the things already discussed is how sea level rise changes the nature of the impact of the project.

Item 2. Ms. Goeden asked for comment on the statement: “The Working Group has determined that adaptive management is necessary and discussed metrics based on biological response; however, it has not yet discussed the life of the projects in consideration of rising sea level.” Ms. Goeden stated the last part of the sentence can be removed since the Working Group has now discussed the life of the project.

Item 3. Ms. Goeden asked for comment on the statement: “The Working Group has discussed the importance of transition zones and the need to improve them in restoration projects. It has also discussed the need to consider gradual construction of transitional habitat in existing marshes as sea level rises rather than in one lift. It has not specifically discussed mud flat conversions.” Ms. Goeden stated the last sentence can be removed since the Working Group has now discussed mudflat conversion issue. The question of how to value habitat has been somewhat discussed and the idea of augmenting stress habitats.

Item 3F. Ms. Goeden stated *Item 3F* is about how the Commission deals with uncertainty, accounts for the balance of uncertain outcomes of the project, and ensures the public benefits of the project. Ms. Goeden stated the permitting process includes balancing impact versus benefits. When benefits become uncertain over time, it is difficult to find a balance. Impacts are often more certain than benefits and this disparity creates a challenge.

Chair Nelson agreed that there is uncertainty with regard to the permanence of mitigation over time, but there is also uncertainty about the impact of the project itself. Commissioner McGrath stated the need for language, now that the Working Group has discussed beaches that reflects the understanding of what happened to the fill off the racetrack in Albany and what happened to the fill from the construction of the Bay Bridge. It has to do with both scale and morphology. Commissioner McGrath stated at a small scale without traffic, sand put on top of mud flats will be buried by mud in three to ten years. On a larger scale, when there is more sand and it is accompanied with some morphological feature such as the tidal flow out of the Emeryville Basin, there will be a beach as it is at the base of the Bay Bridge. He suggested capturing the idea that, while there is always uncertainty, there is a fairly good understanding of the prospects of morphology.

Item 4. Commissioner McGrath stated the Working Group has not discussed the wetland and subtidal habitat goals. He suggested adding “utilizing the landscape goals of the wetland and subtidal habitat projects” under *Item 4D*.

Chair Nelson requested that staff include mitigation banking in the list. This prompts the question of whether the Commission is ready to make the statement that it believes that over time it may need to do more regional planning to achieve affective mitigation. Ms. Goeden stated a concern expressed when doing regional planning that ensuring benefits and impacts are evenly distributed for communities. Mitigation banking can be a challenge in the future because of the lack of availability of space in some regions.

Item 5. Commissioner McGrath suggested rather than the idea of good fill and bad fill that it depends on the level of project impacts. Chair Nelson stated there are already metrics in place for good projects and projects that will not be permitted. *Item 5* asks the Working Group to categorize fill in different ways and to subject them to different regulatory requirements. The challenge is to determine where the line is drawn between some of the green to gray infrastructure projects and the point where the project goes a little too gray, which then subjects it to different regulatory requirements.

Item 6B. Commissioner McGrath stated the answer to *Item 6B* is, if there is temporal impact, it needs to be addressed.

Item 6C. Chair Nelson stated the answer to *Item 6C* is additional fill should be authorized on the basis of future sea level rise. Commissioner McGrath stated there is a scale factor; there is a balance. If restoration is done to the maximum degree feasible and the objective is a viable habitat system that morphologically makes sense, and there are limitations to funding, fill that might have a slightly greater short-term temporal impact could lead to a more robust habitat system that will be viable for a longer period of time. On the other hand, a huge amount of seasonal wetland or tidal marsh should not be wiped out idly. Chair Nelson stated that may be a place where scale is an issue. If there is enough land to plan for a substantial amount of habitat, the evolution of that landscape should be planned for over time. The BCDC is now thinking about a much longer period of time. Commissioner McGrath stated the scale issue is well illustrated today with the Tule Creek because the scale question in terms of adaptation is how rapidly it progresses from pilot projects. In that context, some loss of transitional habitat is fairly minor.

Chair Nelson stated the question is if the Commission would think differently about what minimum fill means because of sea level rise. The answer is yes. Cullinan is a good example - existing seasonal marsh is going to change under any circumstance. Not only will the BCDC allow the CDFW to do additional fill, but it should encourage that because that is encouraging them to do adaptation planning over time.

Commissioner McGrath brought up the Sonoma Baylands question of whether a habitat is so important on a landscape scale that it would be better to retain a certain amount of it rather than see a transition towards tidal wetlands. A lot of the species that do well in seasonal marshes also do well or better in tidal marshes, so mitigation is not needed for that.

Item 6B. Commissioner McGrath agreed with the statement in *Item 6B*.

Item 6C. Chair Nelson stated the answer to *Item 6C* is yes, it will have limitations.

Item 6D. Chair Nelson stated *Item 6D* is a gap. More needs to be learned about different placement techniques and how effective they are over time.

4. Discussion on Key Policy Issues for Built Environment Projects. This agenda item was not discussed.

5. Work Plan Discussion. Chair Nelson stated the need for a six-month agenda of Working Group tasks to be completed consistent with Commission Chair Zachary Wasserman's goal to host a series of three workshops in early 2017. The January workshop will be based on work already completed but still needs to be planned. The Working Group's January meeting can be used to prepare for the February workshop, and the February meeting can be used to prepare for the March workshop, for a total of six Working Group meetings to prepare. Ms. Goeden stated Commission Chair Wasserman requested that the Working Group submit complete packets of issues with options, as discussed in the last meeting, for each of the three workshops for approval by the Commission. The workshop topics will be "What We've Learned," "Gaps in Knowledge," and "Where to go from Here" Mr. Goldbeck suggested submitting language on a more general level that can be worked on in more detail after Commission approval. Chair Nelson stated the first workshop on "What We've Learned" will be relatively straightforward and much of it can be based on the memo staff drafted on that topic. Not much more will be added to it because it will be based largely on what the Working Group has already done.

Chair Nelson questioned whether the last two workshops should be on gaps in knowledge and where to go from here or whether they should be on short-term actions and long-term actions. He also questioned whether habitat and the built environment should be separate workshops or combined in one meeting. Commissioner McGrath stated he did not feel strongly one way or the other. There is enough material to set up the first workshop on "What We've Learned." Staff set out further discussion points in the memo that would make good workshop material. Mr. Goldbeck suggested that the Working Group line up the issues that can be sorted for later workshops.

Chair Nelson suggested a February workshop on habitat since the Working Group has spent more time on those issues, which will allow for another meeting to work on built environment ideas. Workshops on habitat and the built environment would have more material for a workshop than gaps. Commissioner McGrath agreed and stated the same thing applies to short-term versus long-term. The best way to discuss uncertainty and the term of improvements is with something concrete.

Ms. Goeden listed the built environment topics discussed at the last Working Group meeting: (1) Fill in the shoreline band; (2) Maximum feasible public access over time; (3) Flood protection; (4) Adjacent low lying areas; (5) Shoreline protection; (6) Green to gray infrastructure; (7) Barriers; and (8) Transportation corridors and flood protection.

Mr. Goldbeck suggested keeping the workshop presentations fairly brief. Commissioner McGrath suggested prioritizing barriers, green to gray infrastructure from an Adapting to Rising Tides (ART) program perspective, and transportation, such as Highways 37 and 101 and the railroad, which has flood control issues. Chair Nelson agreed that transportation issues are key because they do not only work well through an ART-style approach. Transportation is an important part of thinking about shoreline protection and a green to gray approach for the railroad and Caltrans to collaborate and integrate their facilities and shoreline protection. Commissioner McGrath stated the need for Caltrans to engage headquarters for backing on nontraditional solutions. Mr. Goldbeck stated the BCDC is participating in an \$800,000 grant from Caltrans that the Metropolitan Transportation Commission (MTC) is matching for a total of \$1.2 million to do a regional transportation infrastructure vulnerability assessment. Chair Nelson stated one of the things to think through in preparation of the workshops is whether to wait for something from Caltrans grant. Mr. Goldbeck stated the project will not have much output before the workshops.

Ms. Goeden agreed and stated they are currently writing their work plan. Commissioner Brush stated part of yesterday's discussion on ART dealt with a case study of Caltrans on Doolittle Drive in Alameda. He agreed with Commissioner McGrath that Caltrans needs to connect with headquarters about setting priorities and what they want their resources to do. Doolittle Drive is considered low-use; even though there are compelling reasons for improvements, Caltrans is not funded to do their higher-level of service roads. He suggested matching the Caltrans/MTC grant commitment to look at vulnerability outcomes with existing prioritization to go beyond their current mindset to just patch it up.

Commissioner McGrath stated that illustrates the forward-thinking problem with stretched resources but he is more looking at the "and" in BCDC that there is an economic infrastructure of transportation facilities. For example, in the Port of Oakland, maintenance is a low priority because their facilities are generally out of date by the time they need major maintenance and they have to redo them. But it is the access roads - the transportation facilities are vital to the health of the Bay economically. Chair Nelson stated ART will address much of the regional transportation challenges.

Commissioner McGrath asked how to workshop that in sufficient detail to examine questions that might make a more sensible planning horizon. For example, at what point in terms of both economic and environmental policy does it make sense to make the causeway on Highway 37 a four-lane road? Chair Nelson stated there are several locations around the Bay where Caltrans facilities are in a logical location to protect communities from flooding. Those are two very different challenges. He stated, rather than looking at how ART will think about transportation, it makes more sense to ask Caltrans headquarters to present to the BCDC how to integrate their thinking and priorities with what the BCDC is trying to do around the Bay. Mr. Goldbeck agreed that that is a good discussion to have to introduce alternative methods that are more productive.

Commissioner McGrath agreed that a discussion on alternative methods will provide an opportunity to think through issues, such as at what point taking Highway 37 off the causeway exposes communities to flood risk. He stated San Francisquito Creek, Corte Madera, and Mill Valley have similar situations. Commissioner McGrath gave the example of Aquatic Park in Berkeley where the highway levee and the collapsed tubes provide Berkeley with a certain level of flood protection from large floods, while increasing the exposure to low-flood frequency. He stated Aquatic Park can get by for another twenty years with incremental planning, but that would not work in all locations.

Chair Nelson stated long-term fixes would require perhaps a Memorandum of Understanding (MOU) between Caltrans and flood management agencies or state legislation that mandates Caltrans to begin to think differently long-term about their facilities. Mr. Goldbeck stated one way to engage on this will be through the MTC and the Bay Area Regional Collaborative (BARC) that is thinking about this in a progressive way about making a regional plan as opposed to dealing with it on a case-by-case basis.

Commissioner McGrath stated, with the lack of attention to flood control over the last five to eight years, they will be behind the power curve that scrambled for Measure AA funding, even if some of those projects might make good sense as Measure AA projects. Mr. Goldbeck stated public access is important but he questioned the necessity of having a presentation on it.

Chair Nelson summarized Work Group priorities for presentations: barriers, green to gray infrastructure, and Caltrans. He stated the conversation on barriers may not be ripe enough for a presentation. There are two categories of barriers: the new version of the Reber plan and small, low-lying communities. Commissioner McGrath asked, under the barriers category, about covering increased tide-gating or the possibility of offshore breakwater. There is a whole science of offshore breakwaters. Chair Nelson stated breakwaters may not be the issue. Sea level rise and king tides are the larger challenge. Mr. Goldbeck stated breakwaters have been brought up with regards to the San Francisco waterfront due to the many piers and other structures. Mr. Brennan stated designing for the 100-year flood requires levees prior to breakwaters. The question is how the flood attenuation capacity of the levee can be augmented. Breakwaters are a better alternative in open-coast situations. Chair Nelson asked if there are locations in the South Bay where raising levees can be delayed by the use of breakwaters. Commissioner McGrath stated the wave climate in the San Francisco Bay, while substantially more benign than the open coast, is site-specific depending on the length of the fetch and the stability of the land. A long fetch reduces wave energy. Dr. Brennan stated, if a levee is already there, it is probably high enough for most water levels. In the case of the 100-year flood, an offshore breakwater would need to be so high that it would rival the height of the levee. Most of the shoreline already has a levee and most of the levees are approaching the 100-year flood. A situation where offshore breakwater is needed in addition to a levee is different, such as an undeveloped beach that faces an open coast. The breakwater provides a buffer to preserve the beach and the larger open-coast waves allow the breakwater to be submerged, but the waves in the San Francisco Bay are relatively small. In order to intersect

with the smaller waves, the breakwater crest needs to be higher - just short of the existing levee. Augmenting the levee is a better solution in those cases. Commissioner McGrath stated an exception would be habitat erosion prevention.

Chair Nelson stated the Working Group already discussed that on the habitat side. That is a gap where more learning is required. Breakwaters may not be something to prioritize as a subject. Ms. Goeden suggested looking at flood protection along Novato Creek from the Petaluma River to Hamilton, which is both creek and shoreline focused and considers Highway 37. Chair Nelson asked if that is a way to tackle the green to gray question in a site-specific way. Commissioner McGrath agreed with the Novato site because there is already an investment in it with watershed protection and water supply reservoirs that can be hooked into the system to optimize flood protection in habitat in the long-term. It is an interesting example.

Chair Nelson stated Caltrans, green to gray infrastructure and/or Novato, and barriers are the priority workshop presentation categories to present to the Commission.

6. Adjournment. There being no further business, Chair Nelson adjourned the meeting at 12:35 p.m.